

Claims

We claim:

1. A method of induction of amyloid plaques, the method comprising the steps of:
 - a) immobilizing a quantity of a selected sulfated glycosaminoglycan (SGAG) or a GAG-related macromolecule on a selected medium;
 - b) adding to the immobilized SGAG on the medium a quantity of dissolved low fibrillar A β 1-40 (LFA β).
- 5 2. The method of Claim 1, wherein the LFA β is added in a A β :SGAG weight/weight (w/w) ratio range of between 1:0.01 to 1:20.
- 10 3. The method of Claim 2, wherein the LFA β is added in a A β :SGAG w/w ratio range of between 1:0.1 to 1:10.
4. The method of Claim 3, wherein the LFA β is added in a A β :SGAG w/w ratio range of between 1:0.5 to 1:2.
- 15 5. The method of Claim 4, wherein the LFA β is added in a A β :SGAG w/w ratio of about 1:1.
6. The method of Claim 1, wherein the selected medium is either a slide, a film or a titer well plate.
7. The method of Claim 1, wherein the SGAG is selected from the group of SGAGs consisting of heparin, heparan sulfate, keratan sulfate, dermatan sulfate, chondroitin-4-sulfate and chondroitin-6-sulfate, and the GAG-related macromolecule is dextran sulfate.
- 20 8. The method of Claim 6, wherein the titer well plate is an 18 - 96 well Teflon partitioned slide.
9. The method of Claim 8, wherein the LFA β is added to the immobilized SGAG by a bubbling technique.
- 25 10. A method of induction of amyloid plaques, the method comprising the steps of:
 - a) immobilizing a quantity of a sulfated glycosaminoglycan (SGAG) or a GAG-related macromolecule on a Teflon partitioned slide well, the SGAG selected from the group of SGAGs consisting of heparin, heparan sulfate, keratan sulfate, dermatan sulfate, chondroitin-4-sulfate and chondroitin-6-sulfate, and the GAG-related macromolecule is dextran sulfate;
 - b) adding to the immobilized SGAG on the slide well a quantity of dissolved low fibrillar A β 1-40 (LFA β), wherein the LFA β is added in a

A β :SGAG w/w ratio range of between 1:0.5 to 1:2 by bubbling the LFA β into the slide well.

11. A method of screening a selected amyloid therapeutic candidate, the method comprising the steps of:

- 5 a) immobilizing a quantity of a selected sulfated glycosaminoglycan (SGAG) or a GAG-related macromolecule on a selected medium;
- b) adding to a quantity of dissolved low fibrillar A β 1-40 (LFA β) a selected quantity of the selected amyloid therapeutic candidate to create a test solution;
- 10 c) adding to the immobilized SGAG on the medium a selected quantity of the test solution;

whereby a percentage inhibition in formation of amyloid plaques, as compared to a test reference prepared as above without the selected amyloid therapeutic candidate, is indicative of a percentage efficacy of the selected amyloid therapeutic candidate.

15 12. The method of Claim 11, wherein the test solution is added having LFA β in a A β :SGAG weight/weight (w/w) ratio range of between 1:0.01 to 1:20.

13. The method of Claim 12, wherein the test solution is added having LFA β in a A β :SGAG w/w ratio range of between 1:0.1 to 1:10.

20 14. The method of Claim 13, wherein the test solution is added having LFA β in a A β :SGAG w/w ratio range of between 1:0.5 to 1:2.

15. The method of Claim 14, wherein the test solution is added having LFA β in a A β :SGAG w/w ratio of about 1:1.

16. The method of Claim 11, wherein the selected medium is either a slide, a film or a titer well plate.

25 17. The method of Claim 11, wherein the SGAG is selected from the group of SGAGs consisting of heparin, heparan sulfate, keratan sulfate, dermatan sulfate, chondroitin-4-sulfate and chondroitin-6-sulfate, and the GAG-related macromolecule is dextran sulfate.

30 18. The method of Claim 16, wherein the titer well plate is an 18 - 96 well Teflon partitioned slide.

19. The method of Claim 18, wherein the test solution is added to the immobilized SGAG by a bubbling technique.

20. A method of screening a selected amyloid therapeutic candidate, the method comprising the steps of:

- a) immobilizing a quantity of a sulfated glycosaminoglycan (SGAG) or a GAG-related macromolecule on a Teflon partitioned slide well, the SGAG selected from the group of SGAGs consisting of heparin, heparan sulfate, keratan sulfate, dermatan sulfate, chondroitin-4-sulfate and chondroitin-6-sulfate, and the GAG-related macromolecule is dextran sulfate;
- b) adding to a quantity of dissolved low fibrillar A β 1-40 (LFA β), wherein the LFA β is added in a A β :SGAG w/w ratio range of between 1:0.5 to 1:2, a selected quantity of the selected amyloid therapeutic candidate to create a test solution;
- c) adding to the immobilized SGAG on the medium a selected quantity of the test solution by bubbling it into the slide well;

whereby a percentage inhibition in formation of amyloid plaques, as compared to a test reference prepared as above without the selected amyloid therapeutic candidate, is indicative of a percentage efficacy of the selected amyloid therapeutic candidate.

21. A method of screening a selected amyloid therapeutic candidate, the method comprising the steps of:

- a) immobilizing a quantity of a selected sulfated glycosaminoglycan (SGAG) or a GAG-related macromolecule on a selected medium;
- b) adding to the immobilized SGAG on the medium a selected quantity of dissolved low fibrillar A β 1-40 (LFA β) to form amyloid plaques on the medium;
- c) adding to the amyloid plaques on the medium a selected quantity of a test solution of a selected amyloid therapeutic candidate;

25 whereby a percentage disruption of amyloid plaques on the medium, as compared to
a test reference prepared as above without the selected amyloid therapeutic candidate,
is indicative of a percentage efficacy of the selected amyloid therapeutic candidate.

22. The method of Claim 21, wherein the LFA β is added in a A β :SGAG weight/weight (w/w) ratio range of between 1:0.01 to 1:20.

30 23. The method of Claim 22, wherein the LFA β is added in a A β :SGAG w/w ratio range of between 1:0.1 to 1:10.

24. The method of Claim 23, wherein the LFA β is added in a A β :SGAG w/w ratio range of between 1:0.5 to 1:2.

35 25. The method of Claim 24, wherein the LFA β is added in a A β :SGAG w/w ratio of about 1:1.

26. The method of Claim 21, wherein the selected medium is either a slide, a film or a titer well plate.

27. The method of Claim 21, wherein the SGAG is selected from the group of SGAGs consisting of heparin, heparan sulfate, keratan sulfate, dermatan sulfate, chondroitin-4-sulfate and chondroitin-6-sulfate, and the GAG-related macromolecule is dextran sulfate.

28. The method of Claim 26, wherein the titer well plate is an 18 - 96 well Teflon partitioned slide.

29. The method of Claim 28, wherein the LFA β is added to the immobilized SGAG by a bubbling technique.

30. A method of screening a selected amyloid therapeutic candidate, the method comprising the steps of:

a) immobilizing a quantity of a sulfated glycosaminoglycan (SGAG) or a GAG-related macromolecule on a Teflon partitioned slide well, the SGAG selected from the group of SGAGs consisting of heparin, heparan sulfate, keratan sulfate, dermatan sulfate, chondroitin-4-sulfate and chondroitin-6-sulfate, and the GAG-related macromolecule is dextran sulfate;

b) adding to the immobilized SGAG on the slide well a quantity of dissolved low fibrillar A β 1-40 (LFA β), wherein the LFA β is added in a A β :SGAG w/w ratio range of between 1:0.5 to 1:2 by bubbling the LFA β into the slide well.

c) adding to the amyloid plaques on the slide well a selected quantity of a test solution of a selected amyloid therapeutic candidate;

whereby a percentage disruption of amyloid plaques on the slide well, as compared to a test reference prepared as above without the selected amyloid therapeutic candidate, is indicative of a percentage efficacy of the selected amyloid therapeutic candidate.

31. A kit for screening a selected amyloid therapeutic candidate, the kit comprising: an immobilized quantity of a sulfated glycosaminoglycan (SGAG) on a medium; a quantity of low fibrillar A β 1-40 (LFA β); and screening instructions per Claim 11.

32. A kit for screening a selected amyloid therapeutic candidate, the kit comprising: a quantity of amyloid plaques preformed on a medium in accordance with Claim 21 steps a-b; and screening instructions per Claim 21 step c, *et seq.*